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[Amy:] The information in this podcast is provided for general informational and educational purposes only and is not a substitute for professional advice. Accordingly, before taking any action based upon such information, you should consult with an appropriate financial, medical, legal, or other professional. Hello, and welcome to The Pawcast, Navigating the Veterinary Profession, a show dedicated to helping veterinarians navigate life, bringing you advice on career development, personal finance, and the business of veterinary medicine. We're your hosts today, Amy Snyder --

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[Amanda:] And Amanda Bates.

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[Amy:] And today we're talking about global health, and more specifically careers in global health for veterinarians. And we have a guest with us today, Doctor Andy Stringer, who's director of Global Health Education here at the college. Welcome Andy.

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[Andy:] Thank you very much. Thank you for the invitation to join you.

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[Amy:] So tell us, why global health for veterinarians?

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[Andy:] Well, that's a great question to start with and I think it's probably best answered if we think about the kind of current global health challenges that we are facing in society today. So those challenges revolve around things like infectious disease, they can involve things like antimicrobial resistance, food security, food safety. We also know those things like malaria, HIV/AIDS, plus those non-communicable diseases, cancer, heart disease. But over the next 10 to 20 years, we're going to see profound impacts on these challenges from global health trends. So we're going to see an increase in human population. We're going to see increasing urbanization of that human population. 70% of the world's population will live and reside in open centers. We're going to see an increased demand for livestock products, so for livestock product consumption of meats, milk and eggs. So with this increase in human population, increasing urbanization, increasing demand for livestock products, and these

global health challenges, infectious diseases, food safety, anti-microbial resistance, there's a real role for veterinarians to be involved in the global health sector to help tackle and mitigate some of these challenges.

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[Amy:] So what do those career opportunities look like for veterinarians specifically? Can you give us a sense? I know it's a really big, broad question, but can you give us kind of a sense of what that looks like?

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[Andy:] Absolutely. So again, global health is a very broad field, it's a very broad sector, and we have multiple global health challenges. We look at veterinarians there. Traditionally they've been involved in helping to improve animal health and productivity so that those benefits can, therefore, increase livelihoods, resilience, food security, food safety, all they've typically been involved in helping to combat things like zoonotic disease spread, pandemics, antimicrobial resistance. There are also veterinarians who have moved up into administration and senior management now kind of occupy policy or program manager roles. So if we look across that broad global health sector, there are veterinarians working in the federal governments, there are veterinarians working in the nonprofit sector, in academia, in intergovernmental organizations, in the corporate sector, and actually in the military. And each of those different sectors employs veterinarians that I would say are working in that global health sector. So if we can break that down. If we look at something like the federal sector, then you might have employers like NIH, the National Institute of Health that is employing veterinarians in research roles, working on some of these global health research questions that are being raised. We might have veterinarians working for the Center for Disease Control, CDC, particularly in things like the Epidemiological Investigation Service, EIS, working as epidemiologists helping to investigate and to tackle disease outbreaks. We have veterinarians employed for the USDA, working in sort of federal inspection, working in disease prevention. We have veterinarians working at state level in public health. So we've got to remember the global health is also local health. These global health issues transcend borders. So issues like antimicrobial resistance or like transboundary disease that may originate or start abroad can equally impact our animal populations and human health populations here in the US. In the nonprofit sector, we typically have veterinarians working in program manager job, in those nonprofits working to improve animal health that go onto improve livelihood. So things like, nonprofits like Heifer International, Send A Cow or RTI, a big nonprofit here in the Triangle. Typically in the academic sector, veterinarians are working again in the research space. They're

largely working to try and tackle these research questions, or they're helping to educate the next generation of global health leaders, some of which are veterinarians. It's important to remember that you don't train as a global healthist. Global health typically involves multiple disciplines and what we're trying to do is increase the role of the veterinarian in that.

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[Amanda:] So as a follow-up question to that and I think you just touched on it, is there typically additional training for someone who wants to pursue a global health career who's coming from a veterinarian background or is it that they can take the knowledge that they've gained in their academic program and move into some of these areas?

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[Andy:] So again, really great question. And I think there's no single answer for that. So there have been veterinarians that have graduated with a vet degree and gone on to have hugely successful careers in global health having done no extra training, post-graduate training or CE training. However, I would say, a large number of them that do go on to have those successful careers do undertake some additional training. Now it's important that some of that training could be -- or some of that educational opportunities or experiences can begin while you're here at a college of veterinary medicine undertaking your DVM degree. Part of that is building your awareness of career paths in global health. So what does a career path look like? Who are these other providers? What does a day-to-day role for a veterinarian in some of these different providers look like? Part of that is also about crafting your resume or CV to help you increase your success of getting opportunity, or getting a placement, or getting a job in one of these providers. It may be that actually you're going to strengthen your marketability as a veterinary graduate. He's graduating with a DVM degree by undertaking another qualification whilst you're still a veterinarian. So that could be a formal academic certificate, it could be that you go on to take an intercalated year and do a Masters in public health. Or it could be that you wait until after you graduate and then pursue additional post-graduate training, or you join an organization in an entry level position and then pursue that additional training later or in-house CE. So there's no single answer, but what we typically find is that a variety of these will help make you more marketable for the different sectors.

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[Amanda:] And I'm curious, and I like what you said also about global health is local health, because I think sometimes we forget that with the term. But for the individuals who are looking more

internationally, I know that through here, students have an opportunity to go abroad and experience that, but are there particular opportunities or experiences that you think a student should have to sort of prepare for maybe an internationally facing that career?

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[Andy:] Again, really great question. So we talk a lot about sort of knowledge and technical skills that individuals and students can acquire, so formal degrees or formal qualifications, and they're really important. They build your knowledge in a technical skill sets. Equally important, I would say, is those professional skills as they're going to support you and make you a successful professional. And with things we're thinking about there are things like your cultural competency, your ability to communicate across cultures, your problem-solving abilities, your initiative, adaptability, your ability to work in teams and particularly interdisciplinary teams. By undertaking experiences whether they're educational opportunities or research placements or the opportunity we have here at the college through the certificate program to experience these eight-week international placements, it provides an opportunity for you to gain and to develop those skills. Those skills are very hard to develop, particularly internationally if you don't have the opportunity to travel internationally. And often we find that if you get to spend time in different cultures, working in different communities, working to develop those cross-cultural communication skills, that they're going to be invaluable later on.

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[Amy:] So you've mentioned a couple times now the global health certificate that we offer here at the CVM. Can you give our listeners just a little bit more detail around what that program is and kind of what it involves while they're here in veterinary school?

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[Andy:] Absolutely. So this certificate was conceived about four years ago. So we recognize that for -- it's a small but passionate number of students entering our DVM program here. They really wanted to pursue a career in international veterinary medicine or looking how they could work as a veterinarian engaging with the global health space, particularly around things like livestock and livelihoods, food safety, infectious diseases. What we look to do is not just increase their awareness of possible career paths, but also provide education opportunities to help build their knowledge and technical skills in global health and also, then, provide them with a formal qualification. So the certificate program is a 12-credit formal qualification that can be obtained alongside your DVM degree. So about seven of those credits come from doing one-week courses. These include

things like global health challenges, global health research methodologies. And then five credits come from a 10-week international research experience where you are immersed in an international research project, working on a global health challenge, usually alongside an academic institution or with an academic research group, really giving you first-hand, grass-roots experience of what a global health career might look like there.

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[Amanda:] And for some of our future veterinarians or current veterinarians, I'd be interested if you would share a little bit about some of the opportunities you've been on or have led students on, as well as even with the 10-week research experience you're talking about with our students, if there are a couple that you might want to note that you thought were really interesting in the course of your time here.

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[Andy:] I think that's really [inaudible]. If I'm fully honest about my career, I graduated wanting to be an equine surgeon. I graduated and went into equine primary care practice. But before I took my first job I spent three months working in Morocco, two months of that volunteering for an animal health nonprofit that was working in the global health sector. And it was really that opportunity that kind of opened my eyes to wow, I might be able to use my veterinary degree in sort of this international global health space. Now I went back to become an equine veterinarian for a while. I took a PhD that saw me living in Ethiopia for a year and a half to two years. But it was a bit later down the line where I ended up working for a British nonprofit, working on animal health and human livelihoods that really opened my eyes to sort of the role that veterinarians could have in global health. And I think what was invaluable to me over that decade was my time on the ground in countries. I think first-hand experiences of working in communities, seeing the complexity of these global health challenges. They don't work in isolation. So typically, communities will have animal health issues, but they might also have profound issues around water sanitation, hygiene. They might have issues around economic security. They might be food insecure. And so looking at how you can work with different disciplines to effectively build animal healthcare infrastructures or improve livelihoods, build resilience, is important. Also equally seeing how those global health challenges are local health. So infectious disease challenges or antimicrobial resistance problems internationally can also present themselves here. It's also worth noting here in the state of North Carolina, we have profound challenges around food insecurity, particularly, in children. There are market differences in life expectancies in different counties in the state. So those challenges exist here as well.

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[Amy:] So we talked a little bit about the career opportunities, and to circle back to that discussion, what do you foresee that job outlook being like in the sector, in the coming years?

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[Andy:] So the global health sectors had a very successful last decade, 15 years, as being a considerable investment advance. The United States Government is one of the world leaders for funding global health financing, something you should be exceptionally proud of. So the financial budget, the budget for FY18 or global health financing was over \$10 billion, and that's fantastic. That's going into a variety of different pots and its implementing a variety of institutions. Currently there's some uncertainty about what the budget is looking like going forward. What I would say is whilst there is that uncertainty and that brings me some reservation, if we look at those sectors or those particular areas where veterinarians work, those areas are probably likely to receive increased funding. So if we look at particularly the Global Health Security Agenda, which is getting financed under the Global Health Financing from the United States Government, that is actually likely to see an increase in financing. So the Global Health Security Agenda typically finances projects and initiatives around infectious disease pandemics as well, in areas where veterinarians are typically involved in. So I think from a financing point of view, we're going to see increased financing or at least holding the line financing for those areas where veterinarians are typically involved. Now why that's important is that financing directly influences those organizations that employ veterinarians. What we've seen probably in the last 10 years is about a 2 to 20% growth in jobs across those various sectors. That's federal, corporate, academic, nonprofit, in those types of job settings that are employing veterinarians as well. So I think if you're a veterinarian and you're passionate about pursuing a career in global health, I think certainly having increased awareness of your career paths, certainly reaching out and getting in touch with veterinarians in those particular sectors that have worked on particular institutions, but also being positive that there are going to be opportunities in the future.

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[Amanda:] So I guess as a follow-up question, how does a veterinarian student market themselves for this career pathway, particularly if they may be pursuing opportunities where they have not had a lot of DVMS come in, how do they market themselves and how can they show that they also can contribute to this field?

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[Andy:] I think that is a challenging question. I think there is some misconceptions around career paths for veterinarians and I think there is some poor awareness, not just for veterinarians [inaudible] issues about where they may go if they pursue or would like to pursue a career path in global health. I think actually looking at the mainstream global health sector, there's also maybe a lack of awareness about where people may employ veterinarians, because typically we kind of think we pigeonhole them into sort of zoonotic disease or antimicrobial resistance to do with the livestock component of that or maybe livestock livelihoods and how animal source foods can become a human nutritional status increase, which is really important. I think we should recognize that veterinarians will be graduating here with the technical skills, the knowledge, the various degrees, they come with these professional skills. They're often exceptionally bright individuals who have an ability to pick up new information very quickly. They work in teams very well. They communicate very well. They problem-solve very well. Now as a manager or a senior administrator, their skills you want. Whilst early on in their career, you might end up employing them into early entry career positions. There's huge potential for those individuals to go up into senior management and administration. So where would you go as a veterinarian or a veterinary student thinking about this? I think looking at identifying vets that are working in those individual organizations already and looking at how they got there. So signpost for that, if you think about organizations like the Triangle Global Health Consortium, which is a nonprofit based here in the Triangle, it's a member-based organization. It has federal, nonprofit, academic, corporate, faith-based organizations as members. They convene on Annual Careers Day, and that's a good starting place to go meet employers and find out about careers in global health and about branding yourself and about getting those first jobs in global health. I think look also at the websites provided by the Consortium University of Global Health and they have resource links there as well. I think the National Institutes of Health, NIH, Fogarty International Center, one of the institutes at the NIH, has a particularly good resource page as well. I think it's also a good time to say that it's invaluable to have good mentorship or good advising. And so the role of a careers advisor or faculty mentor or faculty advisor who can help open up networks, who help, perhaps can introduce you, who can help, perhaps, answer some questions around the realities of what a career might look like is going to be really important. And so for that small number of very passionate individuals, I think that's the approach to take.

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[Amy:] And Amanda and I had the opportunity to attend the Triangle Global Health Career Day and that is an annual event, correct? And

it's typically an annual event that occurs in February historically speaking?

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[Andy:] Typically late January, early February.

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[Amy:] Okay, very good. So that's a great -- I was super-impressed by how many people there were there and how many organizations were there as well who actually were looking actively for candidates. And to piggy-back off of what you were speaking about as far as the job, that not every organization knows that they need as a veterinarian, right? So oftentimes I see this happen in other sectors as well, where if I read the job description I think to myself, a veterinarian could do that job. However, they may not be specifically marketing for a veterinarian. They may not know they're looking for a veterinarian. So one of the things that I sometimes encourage students to think about is looking a little outside of we're looking for a veterinarian and looking more at that job description and saying you know what? I think I could do that and then making the effort to move forward and say I know that I am not a blank, however, I see this list of things and I could do that because of here's all the evidence that I have. Moving forward, I don't know if you would think the same way or --

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[Andy:] I would agree. I would say that that works both ways. I would say that often -- I would often say that in my experience, veterinary students are often putting themselves into a very small niche and saying I am a veterinarian. I badge myself as a veterinarian quite right and quite proudly. We should be proud of our DVM degrees. But then part of the role of the certificate program was to provide a broad and basic understanding of the global health sector, allowing you to market yourself a bit more widely. You can, having completed this certificate, talk more competently on other issues in the global health space rather than just zoonotic disease and animal health. You can talk a little bit about maternal and child health. You know a little bit about global health financing. And I think that helps break down some of the barriers from a global health employer's background. Rather than just meeting veterinarians that can talk very comprehensively about zoonotic disease and infectious disease, they can actually talk about global health financing, global health policy. They know about those other institutions. And that's really important. So I think it works both ways. I think veterinary students and veterinarians graduating that have a broader understanding of the global health sector, I think at the same time global health employers that have a greater awareness of the skill sets that our veterinarians are graduating with.

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[Amy:] Well, we really appreciate your time today. We thank you so much for coming in. Any last words of wisdom or thoughts that we haven't talked about yet to help any potential listener who is thinking global health may be a career option for them or something they are interested in pursuing?

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[Andy:] I think my closing advice ordinarily always is reach out to somebody who's working in that sector. I think you'll be surprised at how much time people will give you if you are passionate and you're really interested in just finding out more about what a career path might look like or what a particular role might look like in a particular institution, working in that sector, get in touch with them. I think, especially veterinarians working in the global health space typically are very passionate and very, very welcome to helping advise and mentor the next generation of global health leaders coming through. So get in touch.

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[Amy:] Very good advice. And for more advice on networking, you can see our previous episode on networking specifically where we talked about that. Well, thank you so much for coming to join us, Doctor Stringer. We really appreciate it. Thank you guys so much for listening. We'll see you again next time.

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